Kevin Lira

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PhD Student in Computer Science (NCSU) researching large language models for automated software vulnerability repair. Experienced software engineer with expertise in web performance optimization, usability, and secure code generation.

Education

North Carolina State University, Raleigh, NC — *Aug 2025 – Aug 2029 (Expected)*
PhD in Computer Science

- Research on optimizing large language models for enhanced software security.

Federal University of Alagoas, Maceió, AL, Brazil — *Jan 2024 – Jan 2025 (Expected)*
MS in Computer Science

- **Thesis:** Automated vulnerability repair using large language models.

Federal University of Alagoas, Maceió, AL, Brazil — *Jul 2017 – Dec 2023*
BS in Computer Engineering

- **Final paper:** A large multi-language dataset of open-source software vulnerabilities and their fixes.

Experience

Research Assistant — *Raleigh, NC*
North Carolina State University — *Aug 2025 – Present*

- Developing and evaluating LLM-based models for automated vulnerability repair.

Engineering Technical Lead — *Pelotas, RS, Brazil*
Atlas Technologies — *Apr 2025 – Aug 2025*

- Led UX enhancements that increased conversion rates by 0.32% and reduced bounce rate by 0.26%.
- Improved platform efficiency, SEO, and usability, raising funnel conversion to 18.6% and CSAT to 4.22/5.
- Led the design of a new content recommendation algorithm, boosting personalization and engagement.

Front-end Engineer — *Pelotas, RS, Brazil*
Atlas Technologies — *Jan 2022 – Apr 2025*

- Developed and maintained automated tests for frontend components.
- Led performance and SEO initiatives, cutting INP by 30%, and reducing load times by 48%.
- Contributed to the internationalization of products, enabling multilingual support and global scalability.

Front-end Developer — *Maceió, AL, Brazil*
ROGA — *Mar 2021 – Dec 2021*

- Led legacy project migrations for modernization and performance.
- Migrated components to a shared library using Web Components for better reuse and modularity.

Publications

Beyond Code Explanations: A Ray of Hope for Cross-Language Vulnerability Repair
2nd ACM International Conference on AI-powered Software (AIware 2025) - Accepted

Turning Manual Tasks into Actions: Assessing the Effectiveness of Gemini-generated Selenium Tests
2nd ACM International Conference on AI-powered Software (AIware 2025) - Accepted

Technologies

Languages: Python, TypeScript, C, SQL, JavaScript

Frameworks & Libraries: Node.js, Flask, Angular, Vue, Laravel

Tools & Testing: Git, Docker, Linux, Cypress, Playwright, Vitest

Awards

Winner, HackaFlag (Maceió stage) — 2017

Largest Capture the Flag cybersecurity competition in Latin America.